

Claims

1. An apparatus for use in a communication system comprising:
a receiver, including a plurality of receiver chains, for receiving a pilot channel and determining a channel condition of said pilot channel;
a control system for controlling receive diversity of said receiver by selecting a number of said plurality of receiver chains based on said determined channel condition.

2. The apparatus as recited in claim 1 wherein said control system is configured for reducing said number of selected receiver chains when said determined channel condition is above a first channel condition threshold.

3. The apparatus as recited in claim 1 wherein said control system is configured for increasing said number of selected receiver chains when said determined channel condition is below a second channel condition threshold.

4. The apparatus as recited in claim 1 wherein said control system is configured for reducing said number of selected receiver chains when said determined channel condition is above a first channel condition threshold and increasing said number of selected receiver chains when said determined channel condition is below a second channel condition threshold, wherein said first channel condition threshold corresponds to a stronger channel condition than a channel condition corresponding to said second channel condition threshold.

5. The apparatus as recited in claim 4 wherein said control system is configured for adjusting a delta threshold corresponding to a difference between said first and second channel condition thresholds based on a mobility level of said receiver in said communication system.

6. The apparatus as recited in claim 5 wherein said control system is configured for increasing said delta threshold in response to an increasing

mobility level and reducing said delta threshold in response to a decreasing mobility level.

7. A method for determining receive diversity in a receiver of a communication system comprising:

receiving a pilot channel at said receiver, including a plurality of receiver chains, and determining a channel condition of said pilot channel;

selecting a number of said plurality of receiver chains based on said determined channel condition for controlling receive diversity of said receiver.

8. The method as recited in claim 7 further comprising:

reducing said number of selected receiver chains when said determined channel condition is above a first channel condition threshold.

9. The method as recited in claim 7 further comprising:

increasing said number of selected receiver chains when said determined channel condition is below a second channel condition threshold.

10. The method as recited in claim 7 further comprising:

increasing said number of selected receiver chains when said determined channel condition is below a second channel condition threshold and reducing said number of selected receiver chains when said determined channel condition is above a first channel condition threshold, wherein said first channel condition threshold corresponds to a stronger channel condition than a channel condition corresponding to said second channel condition threshold.

11. The method as recited in claim 10 further comprising:

adjusting a delta threshold corresponding to a difference between said first and second channel condition thresholds based on a mobility level of said receiver in said communication system.

12. The method as recited in claim 11 further comprising:

increasing said delta threshold in response to an increasing mobility level.

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13. The method as recited in claim 11 further comprising:
reducing said delta threshold in response to a decreasing mobility level.
 14. A method in a communication system for decoding a quick paging channel (QPCH) comprising:
determining a channel condition of a pilot channel received at a mobile station in said communication system;
determining receive diversity at a receiver of said mobile station by determining a number of a plurality of receiver chains of said receiver for receive diversity based on said determined channel condition;
determining a first data bit of said QPCH received at said mobile station in accordance with processing of one or more signals produced based on said determined receive diversity.
 15. The method as recited in claim 14 further comprising:
switching said mobile station to a sleep mode when said determined first data bit is a zero.
 16. The method as recited in claim 14 further comprising:
determining a second data bit of said QPCH received at said mobile station when said determined first data bit is either a one or an erasure.
 17. The method as recited in claim 15 further comprising:
directing resources of said mobile station to decode a received channel when said determined second data bit is either a one or an erasure.
 18. The method as recited in claim 15 further comprising:
switching said mobile station to a sleep mode when said determined second data bit is a zero.
 19. An apparatus for decoding a quick paging channel (QPCH) in a communication system comprising:

a receiver for determining a channel condition of a pilot channel received at a mobile station in said communication system;

a controller for determining receive diversity at said receiver by determining a number of a plurality of receiver chains of said receiver for receive diversity based on said determined channel condition, wherein a first data bit of said QPCH received at said receiver is determined in accordance with processing of one or more signals produced based on said determined receive diversity.

20. The apparatus as recited in claim 19 wherein said controller is configured to switch said mobile station to a sleep mode when said determined first data bit is a zero.

21. The apparatus as recited in claim 19 wherein said determined first data bit is either a one or an erasure, a second data bit of said QPCH received at said mobile station is determined, and said controller is configured for directing resources of said mobile station to decode a received channel when said determined second data bit is either a one or an erasure and switching said mobile station to a sleep mode when said determined second data bit is a zero.

22. A method for decoding a quick paging channel (QPCH) in a communication system comprising:

determining a first data bit of said QPCH received at a receiver, including a plurality of receiver chains for receive diversity, in a mobile station in said communication system;

determining receive diversity at said receiver of said mobile station when said determined first data bit is a one or an erasure.

23. The method as recited in claim 22 wherein said determining said receive diversity includes determining a number of said plurality of receiver chains for receive diversity based on a channel condition of a pilot channel received at said receiver.

24. The method as recited in claim 22 further comprising:

switching said mobile station to a sleep mode when said determined first data bit is a zero.

25. The method as recited in claim 23 further comprising:
determining a second bit of said QPCH received at said receiver in accordance with a receive processing of said determined receive diversity;
directing said mobile station resources to receive a receive channel when said determined second bit is either a one or an erasure.

26. The method as recited in claim 23 further comprising:
determining a second bit of said QPCH received at said receiver in accordance with a processing of said determined receive diversity;
switching said mobile station to a sleep mode when said determined second data bit is a zero.

27. An apparatus for decoding a quick paging channel (QPCH) in a mobile station in a communication system comprising:

a receiver for determining a first data bit of said QPCH, wherein said receiver includes a plurality of receiver chains for receive diversity;
a control system for determining receive diversity at said receiver when said determined first data bit is a one or an erasure.

28. The apparatus as recited in claim 27 wherein said control system switches said mobile station to a sleep mode when said determined first data bit is a zero.

29. The apparatus as recited in claim 27 wherein said determined diversity includes selecting a number of said plurality of receiver chains for receive diversity based on a channel condition of a pilot channel received at said receiver.

30. The apparatus as recited in claim 29 wherein said receiver determines a second bit of said QPCH in accordance with a receive processing of said determined receive diversity, and said control system directs said mobile

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station resources to receive a receive channel when said determined second bit is either a one or an erasure.

31. The apparatus as recited in claim 29 wherein said receiver determines a second bit of said QPCH in accordance with a processing of said determined receive diversity, and said control system switches said mobile station to a sleep mode when said determined second data bit is a zero.

32. A method for decoding a quick paging channel (QPCH) in a communication system comprising:

determining a first data bit of said QPCH received at a receiver, including a plurality of receiver chains for receive diversity, in a mobile station in said communication system;

switching said mobile station to a sleep mode when said determined first data bit is a zero;

determining a second bit of said QPCH received at said receiver when said first data bit of said QPCH is either a one or an erasure;

determining receive diversity at said receiver of said mobile station when said determined second data bit is an erasure based on a channel condition of pilot channel received at said receiver;

directing said mobile station resources to receive a receive channel when said determined second data bit is a one.

33. The method as recited in claim 32 further comprising:

directing said mobile station resources to receive a receive channel, after said determining receive diversity at said receiver, in accordance with a receive processing of said determined receive diversity.

34. An apparatus for decoding a quick paging channel (QPCH) in a communication system comprising:

a receiver for determining a first data bit of said QPCH received at said receiver, wherein said receiver includes a plurality of receiver chains for receive diversity, and for determining a second data bit of said QPCH received at said receiver when said first data bit of said QPCH is either a one or an erasure;

a control system for switching said mobile station to a sleep mode when said determined first data bit is a zero, for determining receive diversity at said receiver when said determined second data bit is an erasure based on a channel condition of pilot channel received at said receiver, and for directing said mobile station resources to receive a receive channel when said determined second data bit is a one.

35. The apparatus as recited in claim 34 wherein said control system is for directing said mobile station resources to receive a receive channel, after said determining receive diversity at said receiver, in accordance with a receive processing of said determined receive diversity.

36. A method for decoding a quick paging channel (QPCH) in a communication system comprising:

determining a first data bit of said QPCH received at a receiver, including a plurality of receiver chains for receive diversity, in a mobile station in said communication system;

switching said mobile station to a sleep mode when said determined first data bit is a zero;

determining a second bit of said QPCH received at said receiver when said first data bit of said QPCH is a one;

determining receive diversity at said receiver of said mobile station when said determined first data bit is an erasure based on a channel condition of pilot channel received at said receiver and determining said second bit of said QPCH received at said receiver in accordance with said determined receive diversity.

37. The method as recited in claim 36 further comprising:

directing said mobile station resources to receive a receive channel when said determined second data bit is a one.

38. The method as recited in claim 36 further comprising:

determining receive diversity at said receiver of said mobile station when said determined second data bit is an erasure based on a channel condition of pilot channel received at said receiver and directing said mobile station

resources to receive a receive channel, after said determining receive diversity at said receiver, in accordance with a receive processing of said determined receive diversity.

39. An apparatus for decoding a quick paging channel (QPCH) in a communication system comprising:

a receiver for determining a first data bit of said QPCH received at said receiver, including a plurality of receiver chains for receive diversity, in a mobile station in said communication system and determining a second bit of said QPCH received at said receiver when said first data bit of said QPCH is a one;

a control system for switching said mobile station to a sleep mode when said determined first data bit is a zero and for determining receive diversity at said receiver of said mobile station when said determined first data bit is an erasure based on a channel condition of pilot channel received at said receiver, and wherein said receiver determines said second bit of said QPCH received at said receiver in accordance with said determined receive diversity.

40. The apparatus as recited in claim 39 wherein said control system directs said mobile station resources to receive a receive channel when said determined second data bit is a one.

41. The apparatus as recited in claim 39 wherein said control system determines receive diversity at said receiver of said mobile station when said determined second data bit is an erasure based on a channel condition of pilot channel received at said receiver and directing said mobile station resources to receive a receive channel, after said determining receive diversity at said receiver, in accordance with a receive processing of said determined receive diversity.